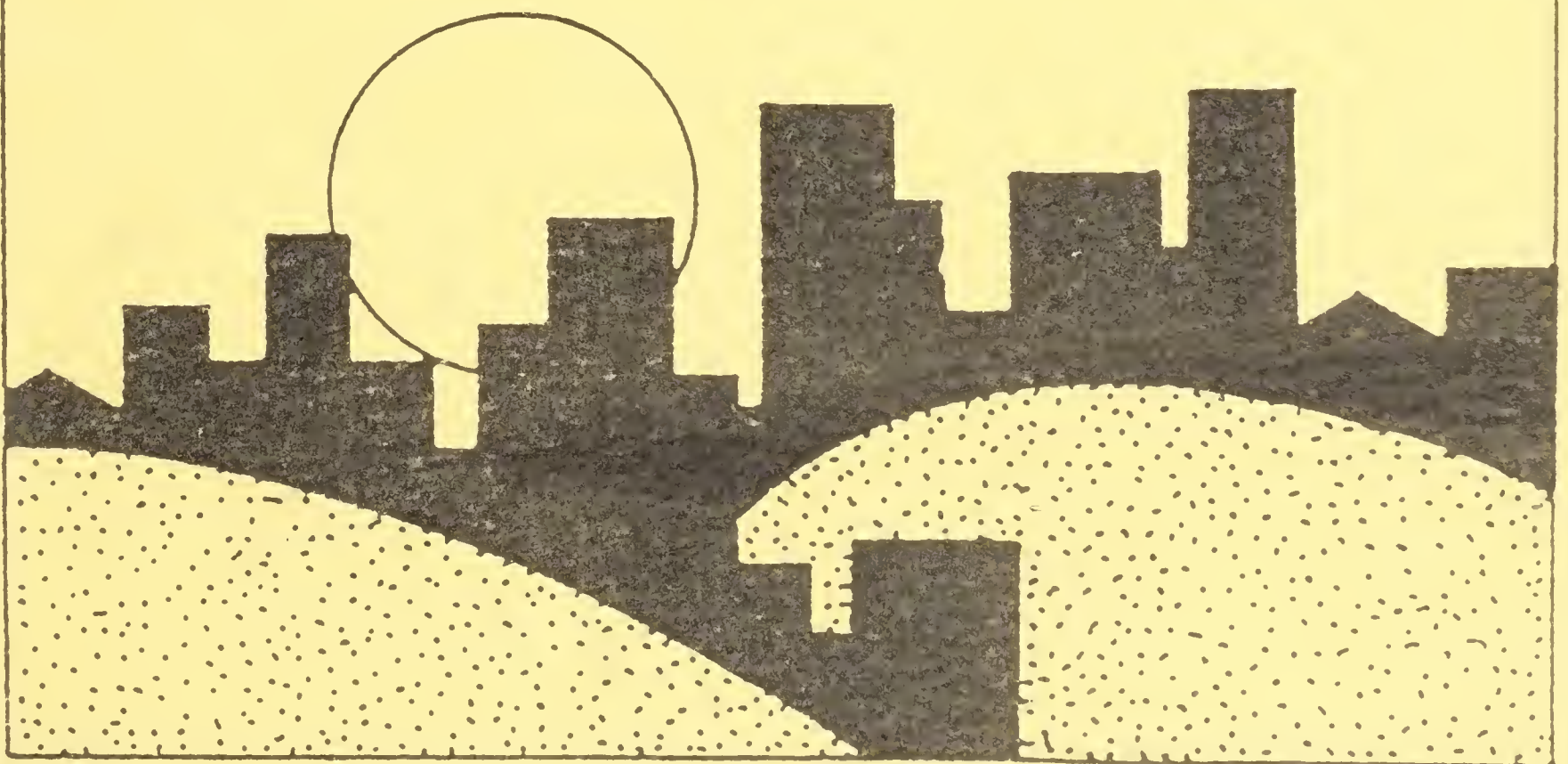


The Activation of Environmental Norms: An Illustrated Model

Russell Blamey

Urban Research Program
Working Paper No.56
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Abstract

A theoretical model with which to consider the activation of personal norms associated with contributions to public goods is presented. The model is based on a well known psychological model of helping behaviour, Schwartz's norm-activation model. In its most basic form, this model holds that the activation of norms of helping is most likely when an actor is aware of the positive consequences her helping behaviour would have for an object in need, and ascribes responsibility to herself for helping. The paper considers how the Schwartz model can be extended to encompass situations where individuals have the opportunity to cooperate with others, and contribute to the provision of public goods. Particular attention is given to environmental goods.

A review of literature in political economy and psychology suggests that the translation of Schwartz's model from situations of isolated individual helping to the public goods context requires the role of organisations, policy initiatives and notions of justice to be explicitly incorporated within the model. Existing elements of Schwartz's model also need to be broadened to encompass some of the unique characteristics of public good contributions, such as shared responsibility, and lower levels of individual decisiveness. The key beliefs driving the model are illustrated in the context of individual reactions to a questionnaire in which they are asked if they are prepared to make a \$50 contribution to help preserve the Australian Coorong in its current state. Qualitative data was obtained from 9 focus groups.

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**The Activation of Environmental Norms:
An Illustrated Model**

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1. Introduction

Most of us have at some time witnessed situations where individuals fail to stop and help a person in need, when it would appear that they could easily have done so. Similarly, individuals will sometimes make voluntary donations to good causes, and at other times they will not. Some individuals will recycle household papers, plastics and glass, whilst others do not, and some will burn rubbish in their backyard without any apparent consideration of the negative impacts such action may have on neighbours. And whilst some people comply with tax regulations, others attempt to free-ride on the system. The question that this paper addresses is how individuals decide whether or not to contribute time, money or other resources to such social causes.

This paper presents a theoretical model with which to explain and potentially predict the activation of personal norms associated with contributions to the public good¹. The model is based on a well known psychological model of helping behaviour, Schwartz's norm-activation model. In its most basic form, this model holds that the activation of norms of helping is most likely when an actor is aware of the positive consequences her helping behaviour would have for an object in need, and ascribes responsibility to herself for helping.

Although this model was developed mainly for the purpose of explaining *altruistically* motivated helping, for example, helping single individuals in distress, Schwartz and Howard (1982, p347) acknowledge that "certain aspects of the model might be suitable to a theory of cooperation". Where helping relationships involve unilateral dependence of people in need on potential helpees, cooperation involves joint behaviour directed toward a common interest (Schwartz and Howard, 1982). This paper considers how the basic principles of the norm-activation model can be extended to encompass situations where individuals have the opportunity to cooperate with others, and contribute to the provision of public goods. The paper is concerned with questions of both benevolence and compliance.

¹With the exception of a selective discussion of policy implications in the final section, this paper is concerned with normative questions only to the extent that factors influencing the activation of individual norms are considered

Particular attention is given to public environmental goods. Environmental applications of the norm-activation model date at least to Heberlein (1972), who was concerned with explaining widespread changes in environmental attitudes and the rise of what has been referred to as the 'environmental ethic'. Van Liere and Dunlap (1978) applied the model to yard-burning behaviour, Black et al (1985) used it in attempting to explain two major consumer responses to the energy situation (efficiency improvements and curtailment), and Hopper and Nielson (1991) used it to test the hypothesis that recycling behaviour can be considered altruistic². Rather than using the norm-activation model to predict actual behaviour, Stern et al (1986, p205) used the model to help explain judgements and intended actions regarding hazardous chemical problems.

An interesting feature of these studies is that they do not explicitly address the cooperative nature of human behaviour as it occurs in regard to environmental goods. The studies do not, for example, consider consequences of action, and responsibility for action, in the context of collective action and free-riding incentives, but rather limit their concern to cases involving isolated individual behaviour. One might expect, however, that individual 'recycling norms' are more likely to be activated when it is perceived that others are recycling. Similarly, individuals may decide not to recycle, because they object to the manner in which government made the request. There is a clear need to assess the potential for incorporating these and other factors within Schwartz's model, with a view to developing a more encompassing model of norm-activation, that can be applied to situations involving contributions to public goods.

The paper is organised as follows. An overview of what will be referred to as 'Schwartz's model' is provided in Section 2. The extension of this model to the case of public good contributions is considered in Section 3. A review of relevant literature in political economy and psychology suggests

² Another common way of modelling decisions regarding environmental and other behaviour is to use Ajzen's (1991) Theory of Planned Behaviour, which developed out of Ajzen and Fishbein's Theory of Reasoned Action. These models are less focussed on the process by which individuals decide to take a certain course of action, being primarily concerned with identification of cognitive and normative beliefs that influence behavioural intention. The theory is not specific to altruistic or cooperative behaviour, and as such, does not specify the likely objects of the key beliefs. Environmental applications include Lynne et al (1995), Kantola et al (1982), and Shimp and Kavas (1984).

that the translation of Schwartz's model from situations of isolated individual helping to the public goods context requires the role of organisations, policy initiatives and notions of justice to be explicitly incorporated within the model. Existing elements of Schwartz's model also need to be broadened to encompass some of the unique characteristics of public good contributions, such as shared responsibility, and lower levels of individual decisiveness. The key beliefs driving the model are then illustrated in Section 4, in the context of individual reactions to a questionnaire in which they are asked if they are prepared to make a \$50 contribution to help preserve the Australian Coorong in its current state. This section draws heavily on qualitative research data obtained from 9 focus groups. Some of the main findings are discussed briefly in Section 5.

2. Schwartz's Model of Norm-Activation

Arguably the most notable attempt to identify the conditions under which norms of altruism influence helping behaviour is that of Schwartz (1977) and Schwartz and Howard (1981, 1982). As noted above, the model holds that the activation of norms of helping is most likely when actors are aware that a person is in need, that their action could have positive consequences for this person, and they feel responsible for acting. The three key components of the model may thus be defined as awareness of need, AN, awareness of consequences, AC, and awareness of responsibility, AR³. Following, Hopper and Nielsen (1991), it is assumed here that AN, AC and AR moderate the influence of personal norms on behaviour⁴.

³Schwartz (1977) suggests that AR will tend to be used as a defense mechanism, and hence may better be referred to as responsibility denial, RD. The use of AR here does not deny that AR will often involve denial. A further point is that applications of the model vary in the extent to which they treat AR and AC as a trait-like characteristic in the manner originally postulated by Schwartz (1968, 1977). Although values and personal traits clearly have an important bearing on how individuals define AN, AC and AR, they are not viewed as 'personal tendencies' in this paper.

⁴This can be contrasted with the approach of Stern et al (1985-86), where AC and AR are treated as antecedent to the activation of personal norms. There would appear to be two ways of resolving the apparent contradiction. First, it can be argued that relevant personal norms will often exist prior to exposure to the object in need, and that AC and AR play a crucial role in establishing whether these norms are in fact activated in a given situation. Second, individuals could be seen to have personal norms of varying specificity. Thus, the personal norm 'I should do my bit to help the environment' may, depending on AC and AR, develop into the more specific norm 'I should recycle paper and glass'. The latter norm is more object-specific, and is only created

Personal norms provide “the link between general internalised values and specific self-expectations in concrete situations...[I]t is assumed that when people face behavioural choices, their value systems are activated. That is, they weigh the implications of the available action alternatives for that set of internalised values which they perceive as relevant. This cognitive process of comparison and evaluation (which may occur either with or without self-conscious awareness) results in the generation of personal norms, feelings of moral obligation to perform or refrain from specific actions”(Schwartz and Howard, 1981, p191)⁵. In contrast, a *social norm* may be defined as a “pattern of behaviour that occurs so often within a particular society that it comes to be accepted as reflective of that society and taken as sanctioned by the members of that society” (Reber, 1985, p708).

An important feature of Schwartz’s model concerns the *process* by which various manifestations of AC and AR are brought together to mediate the influence of values on helping behaviour. This process, outlined initially by Schwartz (1977), and refined by Schwartz and Howard (1981, 1982), is held to involve the 5 sequential stages illustrated in Figure 1. Consider each in turn.

1. Attention

The first stage itself involves three sequential steps. The individual must first notice that a person, or in the more general spirit of this paper, an object (or even society), is in need (step 1a). Situational factors influence the salience and clarity of need, and hence awareness of need, and perceived seriousness of need. Individuals become aware of the consequences of inaction for the object in need. If individuals satisfy this requirement, they proceed to the next step (step 1b) in which actions are identified that could help the object. Once these potential actions are recognised, individuals must then recognise a personal ability to engage in one or more of these

when the individual is exposed to a situation in which AC and AR, specific to recycling, are sufficiently high.

⁵A *value* is “an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance” (Rokeach, 1973, p6).

actions, if they are to proceed to step 2 rather than dropping out with inaction. Only if all 3 requirements are satisfied do individuals move to the second step, where values are activated, generating feelings of obligation.

2. Consequences of Action for Self (Generation of feelings of obligation)

Having perceived an object's need and become aware that they could help, individuals then consider the implications of their possible actions. Three types of implications may be distinguished: (i) physical, material and psychological implications that follow directly from the action; (ii) implications for the actors held values; and (iii) social implications. Although all three forms can be involved in the generation of feelings of personal obligation, only a subset of these are moral in nature.

The first category might involve risk of injury and/or trauma, and/or any monetary or time costs that are expected to be incurred. With respect to the second category, held values are activated to the extent that they are relevant to those actions for which the individual considers herself able. The actor "asks herself whether she is morally responsible for these actions in this situation, given her own general internalised values...The more central to one's self-evaluation the values implicated by the action, the stronger the emotional arousal. Anticipated compliance elicits feelings of self-satisfaction and anticipated inaction elicits feelings of self-deprecation. Thus the sanctions attached to personal norms are based in the self-concept" (Schwartz and Howard, 1981, p199). This self-satisfaction is sometimes referred to as warm glow, or moral satisfaction (Kahneman and Knetsch, 1992).

Social implications involve outcomes that depend on the reactions of others. The actor assesses how the action would comply with socially accepted standards of behaviour. Many different reference groups may be involved, from society at large, to single individuals (such as a person requesting a donation). This step has a major bearing on the responsibility the individual ascribes to herself for action.

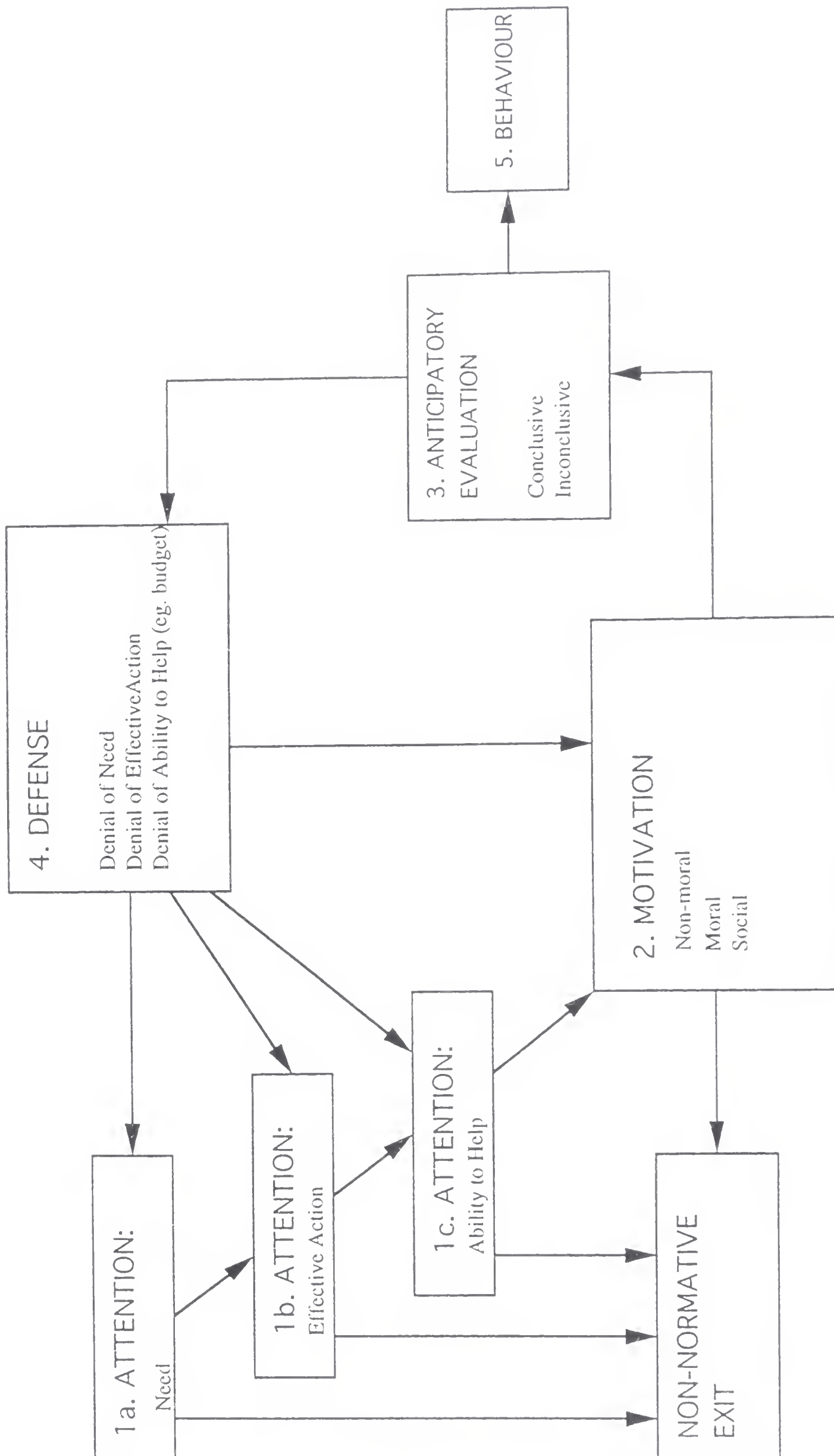


Figure 1: Process Model Of Norm-Activation (Schwartz and Howard, 1982)

3. *Anticipatory Evaluation*

Once individuals have identified the types of costs and benefits that apply to a given action, they must then evaluate them to see whether or not action is justified. The salience of specific costs and benefits can be highly influenced by situational cues. Conservation groups showing pictures of dead birds may cause potential donors to attach higher weight to some of the benefits associated with helping to save birds, than simply stating that birds are being killed. The anticipated magnitude of costs and benefits will also depend critically on “the centrality of the values implicated in a behaviour for the person’s overall self-evaluation. The impact of a personal norm on behaviour is stronger for people whose self-evaluation is closely tied to the values from which the personal norm is constructed”(Schwartz and Howard, 1981, p202). An individual whose self-image is strongly associated with green values is likely to respond more positively to a request to help whales than a person with strongly pro-development values. Both individuals are likely to pass through the evaluation stage more quickly than others with more evenly balanced value-orientations. While the latter may need to assess the specific costs and benefits in some detail before making a decision, the former may employ rules of thumb, or decision heuristics, which in the absence of significant value-incongruent stimuli, may lead to unconscious, and prompt, decisions. Evaluations by highly committed ideologues, or Kantians, are assumed to be consistent with the model to the extent that moral costs can outweigh other costs at the evaluation stage. It is not assumed that all individuals *necessarily* make evaluations in accordance with assumptions of motivational commensurability and continuity. Blamey and Common (1994) discuss the literature on ‘ethical preferences’ in the environment context.

If the output of individuals’ evaluations indicate a clear-cut decision of action or inaction, the recommendation is final and individuals behave accordingly. If however, the costs and benefits of helping are quite balanced, and the outcomes of helping are non-trivial, individuals experience conflict or dissonance, which they are then driven to reduce by delaying the decision and re-examining the situation. This is step 4.

4. *Defence.*

In order to defend themselves against sustained conflict, or dissonance, individuals redefine the situation, in such a way that conflict is reduced.

This tends to involve altering key perceptions that have a bearing on the conditions previously encountered in the first two stages of the model. Individuals may employ four different types of denial in order to *neutralize* feelings of obligation: denial of need; denial of effective action; denial of ability; and denial of responsibility.

Denial of need involves defensively re examining the situation to find cues that permit denial of need, or reduction in perceived need severity. Importantly, “[a]mbiguity of need cues and individual insensitivity to such cues enhance the probability of effective denial”(Schwartz and Howard, 1981, p202). If an individual comes across a person lying on the footpath, he or she may thus decide that the person is ‘simply drunk’, thereby reducing the conflict associated with inaction. Similarly, if it is not clear to an individual whether 200 birds or 200000 birds are in need of help, the individual may assume it is 200 in order to permit a conflict free decision-not to donate to the cause. *Denial of effective action* involves the perception that the action in question would not be effective in helping the object in need. Individuals may not call the police if they believe that they would arrive too late. Similarly, individuals may believe that a donation to a given charity would not be used effectively. This can be contrasted with *denial of personal ability*, where individuals may be carrying no money when approached by a charity representative.

Individuals may also think that circumstances are such that the perceived personal and social norms do not apply to them. A range of person and situation variables may lead to this *denial of responsibility*. A man may deny responsibility for helping a woman in distress, by convincing himself that he has other overriding obligations, or that helping women in distress is the responsibility of other women, or perhaps the police force. People are more likely to feel responsible for helping if they unintentionally caused the state of the helpee.

Once the process of defence is complete, the individual re-evaluates the costs and benefits, and exits the system through action or inaction, unless costs and benefits remain evenly balanced. In the event that such a balance still remains, the individual enters another defence cycle, and continues until a decision is made. The individual will often be constrained by time, however, as in the case of emergencies. In such cases, the passage of time

may increase perceived severity of need, and anticipated moral costs associated with inaction, permitting a decision to be made. Alternatively, the need may be attended to through some other means, for example, by another bystander. The fifth stage is *behaviour*, which takes the form of action or inaction. Although individuals may enter subsequent defensive cycles, for example, rationalising their behaviour and removing the guilt associated with inaction, such processes are not considered here. Suffice it to say that conscious or subconscious knowledge by individuals of this option may lead them to anticipate lower moral costs at the second stage of the model, than would otherwise be the case.

3. Norm-Activation and Public Goods

Of the three examples given in the opening paragraph to this paper, the first corresponds to a unilateral dependence relationship: a single person can potentially provide all the help that another requires. The other examples illustrate that many other forms of prosocial behaviour exist that have important implications for society, including those involving contributions to public goods. Ideally, the norm-activation model would encompass these. A key feature of public goods is of course non-excludability: those who provide the good are unable to prevent others from consuming it⁶. Once provided, these goods can thus be enjoyed by anyone, irrespective of whether they helped provide them. A temptation thus exists for individuals to *free-ride* and let others contribute. From the perspective of an object in need, the key question is not whether any one individual will contribute, but whether *enough* individuals will contribute rather than free-ride. In contrast to the problems generally considered by Schwartz, some form of collective action is required⁷. This situation of *shared responsibility* is distinct from that of *diffused responsibility*. Where the former refers to situations where the total contribution is to be shared among members of a collective, the latter refers to situations where a single individual is potentially quite capable of making the entire contribution alone, but the

⁶ Public goods also exhibit the property of non-rivalness in consumption, meaning that one person's consumption of the good does not reduce the amount of the good available for consumption by others. Collective goods are defined as goods for which non-excludability alone holds (Pearce, 1983).

⁷ A collective-action problem exists when each individual derives greater benefits from universal cooperation than universal noncooperation, but greatest private benefit is obtained from noncooperation, irrespective of what others do (Elster 1985, drawing on Schelling).

presence of other individuals means that it is not clear who will actually make the contribution (Latane, 1981).

The fact that contributions from other individuals are typically required to produce public goods means that one individual may not have a decisive influence on the provision of such goods. Two further distinctions arise here. The first is between divisible and non-divisible goods. An example of a contribution to a divisible good is the use of environmentally friendly detergents. Each individual who uses such detergents provides a small, but decisive, increment in public water quality. If many others do likewise, a larger increment results. This situation can be contrast to that of less divisible, or step goods, such as the purchase of threatened native forests, where the good is only provided at all (or at a sufficiently high level to be worthwhile) when contributions reach a threshold level (Levi, 1993). In this case, an individual's contribution may turn out to have little or no consequences for provision of the good. The second distinction involves the nature of the contribution. Contributions to processes of social decision-making and choice are distinct from direct financial or other contributions to help obtain a good. An individual may vote in favour of an environmental project, which if implemented would have to be paid for by all taxpayers, irrespective of who voted in favour of it. In contrast to direct donations to step goods, where individuals are decisive with respect to donations, but not provision of the good, voters are not decisive with respect to any outcome. The question of decisiveness can have important implications for how one perceives the consequences of her behaviour for the object(s) in need, and how costs and benefits are evaluated. It is intended that the model presented in this paper be applicable to all forms of environmental contribution.

The key characteristic that distinguishes contributions toward public goods from the helping situations most commonly considered by Schwartz is thus the need for collective action, and hence either *cooperation* or *coercion*. Concern in this paper lies mainly with voluntary cooperation, and regulatory compliance. The degree to which individuals voluntarily cooperate under different conditions has long been a popular research topic in the social sciences. Hobbes, for example, argued that in the absence of government, or what he referred to as the state of nature, individual preferences will be dominated by narrow self-interest and negative altruism. The basic principles of the collective action problem are seen in

the prisoner's dilemma (PD) game in game theory (Hardin, 1971). Since the original formulation of the PD game, a great deal of game theoretic research has focussed on identifying the conditions under which cooperative outcomes occur in various circumstances. Individuals are seen to have *contingent strategies or preferences*, cooperation being contingent on certain aspects of the choice-situation. As an example, cooperation has been found to be more likely when it is perceived that the good will only be provided if every member of the collective contributes (the all or nothing good). Although uncommon in large groups, the appeal of such an arrangement stems from the fact that each individual remains decisive.

3.1 Positive Evaluation of Good, and Ability to Help Provide It

In a similar vein to Schwartz's stage 1, researchers in the area of collective action have found that cooperation is more likely when it is perceived that collective action would have a desirable outcome. Levi (1993) refers to this as positive evaluation of the good. No-one wants to contribute to a lost or bad cause. Individuals may sometimes wonder whether a request for contributions is genuine, or based on an accurate assessment of the situation (step 1a). Others may be hesitant to help because of anticipated negative consequences of their action; for example, protesting may achieve little other than spiteful retribution from higher authority (step 1b). In a similar vein to Schwartz, Chong (1991, p11) notes that in contrast to situations where individuals question the need or desirability of a given course of collective action, "there will be strong incentives for individuals to participate when collective action is carefully planned and executed and has the power to improve the lot of the group. Moral prescriptions will now hold more sway over the individual, since there is now a reason to do one's duty; and psychological incentives will also increase..." Chong would thus agree that Schwartz's stage 1 is an important antecedent to stage 2.

Schwartz and Howard (1982, p349) argue that non-cooperation is most often defended through denial of the possibility of effective action, and denial of responsibility. Individuals may thus rationalise that what they do will have little effect on the social problem at hand, or that they should not have to contribute if others do not. Chong (1991, p94) appears to recognise the relationship between ambiguity in information and defence when stating that "because of the inherent ambiguity surrounding political activism, less scrupulous individuals can conjure up numerous reasons or arguments for

why they are justified in not getting involved”. Psychologists have long recognised that ambiguity often results in the inhibition of altruism (Hewstone et al, 1988). In the context of government regulations, however, we might expect that ambiguity often results in greater risk-averse compliance, particularly as the stakes (approximate costs of non-compliance) increase.

3.2 Contributions by Others

Studies have also shown that cooperation is more likely when several iterations of a game are involved. Individuals then anticipate future material gains from cooperation; for example by establishing a reputation for cooperation which they expect to prove beneficial in subsequent games (eg. tit for tat strategies in simple two-person games). Cooperation is more likely when the actions of others is easily monitored, which tends to be most likely when small groups of individuals are involved. Hardin (1982) shows how iterated PD games can produce coordinated equilibrium in which a switch of strategy by any one player will not make anyone better off. Hardin goes on to argue that subject to conditions involving knowledge and negative sanctions for defectors, such equilibria may arise through convention. The convention represents an implicit contract concerning how individuals might get along together. Conventions can be associated with norms of fairness.

Chong argues that when social and psychological incentives are operative, the dilemma facing individuals may be more accurately seen as an assurance game than a PD. Individuals who are prepared to contribute their share to the collective good are prepared to do so only if they can be assured that enough others will do likewise. Importantly, a threshold number of unconditional cooperators, for example Kantians, may be required before we can expect the emergence of conditional, or contingent, cooperators (Chong, 1991, Elster, 1985).

The need for assurance that enough others will contribute is associated with notions of fairness, particularly those pertaining to shared responsibility. Klosko's (1987, p358) advances a fairness thesis along these lines. Song and Yarbrough (1978) found that individuals are more likely to comply with tax laws if they believe that most other people comply (see also Scholz and Pinney, 1995). The notion of shared responsibility appears to receive

widespread public support with respect to funding of environmental goods (Harris and Brown, 1992, Blamey and Common, 1996).

3.3 *Selective Incentives*

Co-operation can also be facilitated by selective incentives; or incentives that exclude those who do not contribute (Chong, 1991). Various types of selective incentives have been postulated, and in general, these accord with findings in psychology, and the assumptions of Schwartz's norm-activation model (particularly stage 2). Chong defines *psychological incentives* to include anticipated internal rewards from participating. These commonly take the form of expressive benefits, so called because "its importance to the actor is in expressing support for the cause, regardless of whether it produces the desired visible consequences" (Turner, 1981, p11 cited in Chong, 1991, p74). To "refuse to contribute to a cause may cast doubt on one's character, reliability, and dependability. If a person fancies himself as an advocate of such values as freedom, equality, peace and justice, then active involvement in collective efforts aimed at furthering those ends is the most effective way to prove such convictions" (Chong, 1991, p9).

Hardin (1982) sees participatory goals, motivated by the desire for self-realisation and self-development, as a special class of 'extrarational' motivation. Psychological benefits may involve needs such as stimulation and/or novelty, and hence anticipated enjoyment, excitement and/or feelings of competence associated with participation (White, 1959)⁸. Hirschman (1982) argues that standard economic frameworks for considering collective action need to be modified to reflect utility that individuals gain from the process of achieving their goals: "the implication of the confusion between striving and attaining is that the distinction between costs and benefits of action in the public interest vanishes, since striving, which should be entered on the cost side, turns out to be part of the benefit" (p85-6). These incentives fall within the first and second categories of Schwartz's 2nd stage, outlined earlier. In cases where contributions take the form of votes or other individual preferences pertaining to social choice, low levels of perceived decisiveness with respect to the outcomes at stake, can cause individuals to discount outcomes at the evaluation stage, in favour

⁸ Psychological costs can similarly apply. For example, an individual may feel physically ill upon witnessing the injuries incurred by parties involved in a traffic accident.

of more expressive and/or social considerations. Brennan and Lomasky (1993) consider the implications of such behaviour for electoral outcomes. Blamey (1996) considers the implications in the context of contingent valuation surveys (see Mitchell and Carson, 1989).

Another type of psychological incentive involves the satisfaction one anticipates from the influence her behaviour has on others. Individuals may be aware that if they recycle, or purchase green products, others may follow in their footsteps. Note that this both increases the consequences of one's action for the object(s) in need, and brings internal feelings of satisfaction. This process is effectively Chong's *social incentive* in reverse.

Social incentives involve anticipated non-material social rewards; for example, avoiding ostracism, or making friends by establishing a favourable reputation. This type of incentive corresponds to Schwartz's social implications, in stage 2 of his model. Selective *material incentives* may also apply in some circumstances. Accreditation of tourism operators that conform to prescribed environmental standards can be used to advantage in product labelling, making compliance, and more generally self-regulation, more incentive compatible.

3.4 Organisations , Policy Initiatives, and Procedures

A characteristic of cooperative collective action is the frequent need for organisations, and policy initiatives, with which to coordinate, and act on, the contributions of members of the collective. To quote Olsen (1965, p15):

...It is of the essence of an organisation that it provides an inseparable, generalized benefit. It follows that the provision of public or collective goods is the fundamental function of organizations generally. A state is first of all an organisation that provides public goods for its members, the citizens; and other types of organisations similarly provide collective goods for their members.

Organisations are closely linked to institutions. The latter are “organized patterns of socially constructed norms and roles, and socially prescribed behaviours expected of occupants of those roles, which are created and recreated over time” (Goodin, 1996, p19). The purpose of institutional design and reform is largely to “alter or coordinate human behaviour” with

a view to efficiency improvements, particularly the minimisation of transaction costs (Levi, 1993, p13).

Having an incentive to cooperate, and being assured that others will contribute, is not a sufficient condition for contributing toward the provision of public goods. Individuals may need to be assured that other parties, or organisations, involved in the 'policy bargain' are doing their bit, and/or that this is done in accordance with certain standards of fairness.

The most obvious organisation with which individuals are likely to concern themselves when contemplating some form of pro-environmental behaviour is government. Government can be involved in collective action in several ways. First, it may have caused the problem for which help is needed. Second, it may have identified the problem, and the possible courses of action that could alleviate the problem. Third, it may be involved in coordinating the individual actions of each member of the collective; for example, by agreeing to hold a referendum, set up a trust fund, or conduct information campaigns. Fourth, government may be involved in coordination and implementation of the outcomes of collective action. Once sufficient donations are obtained, it may be government researchers and workers that undertake the remedial works.

This list is not exhaustive. Government can also implement and enforce various regulations that facilitate cooperation, or compliance. It may decide that collective action on the part of the public is not needed, and provide the good itself, through existing government revenues and resources. It may also undertake separate studies, for example, to gauge the degree of public concern about the problem at issue. In short, government plays a key role in the provision of public goods. When contributions are sought from a collective, trust in government can be expected to play a major role in influencing individual decisions. Levi (1993) notes that trust in government requires that individuals not feel that they are 'being suckered', and/or that their contributions will be wasted. Levi (p21) observes the difficulties government can have in engendering trust in the community: "Too little information undermines confidence that promises are being kept. Too much information may suggest that the norm of fairness is not in fact being upheld". Putnam (1993) sees trust as a form of *social* capital. A feature of trust is that it can take years to build, but can be reduced to ashes by a single

instance of untrustworthy behaviour. Trust in government commonly pertains to government's role in either revenue collection or expenditure.

The various levels and agents of government are of course not the only organisations that can be involved in collective action. Industry bodies, for example, will often play an important role. In the context of green taxes, industry may be held responsible for the environmental problems in question, and questions of trust may arise in relation to whether industry will hold to its part of the policy bargain. Alternatively, policy initiatives that do not involve industry commitments may be rejected on the basis that they are unfair. Research organisations can also be the object of distrust. Trust in scientists may be questioned if the magnitude of an environmental problem is perceived to be overstated, or the expected effectiveness of proposed interventions, dubious. In general, *there can be as many objects of trustworthiness as there are parties with implicit or explicit commitments in the policy bargain or initiative*. Similarly, *there can be as many notions of trust as there are commitments (implicit or explicit) involved in the policy bargain*. To illustrate the latter, consider a policy initiative in which government is considering the introduction of a once-off tax to help fund an important environmental intervention, and citizens are required to vote on the proposal. Some possible notions of trust that may influence voter behaviour include: trust that scientists have not overstated the magnitude of the environmental problem in question; trust that scientists and government have not overstated the usefulness of the intervention in rectifying the problem; trust that government will ensure that all individuals who are required to pay the tax, do so; trust that government will earmark funds to the project in question; and trust that government will stick to its commitment of a *once-off* tax. In the event that industry is also required to bear some of the costs of the intervention, trust in industry to contribute its fair share can also be expected to have an influence on voters.

Importantly, Schwartz's treatment of norm-activation contains virtually no discussion of the role of government or industry. This is largely a consequence of the unilateral dependence relationships with which he is most concerned, where organisations play little or no direct role. Although Schwartz and Howard (1982) make reference to principles of equity and trust, this too lacks specific reference to organisations such as government. Interestingly, however, several hints of procedural concerns can be found in

their writings, most notably under the category of *boomerang effects*, which were created in order to explain the observation of some anomalous results.

Boomerang effects occur when the ‘presence of factors presumed *most* conducive to activating norms favouring helping’ actually result in *decreased* rates of helping. Schwartz and Howard (1981) identify three related forms of boomerang effect. First, the individual may perceive that the framing of an appeal involves excessive statements of need, thereby raising suspicions concerning the motive of the person in need (ie mistrust), and/or the true severity of the need. Related to this is the second explanation, which holds that perceived manipulateness in an appeal may result in ‘reactance, stimulating a need to retain behavioural freedom by resisting the pressure to help’ (Schwartz and Howard, 1981, p208). According to the theory of psychological reactance developed by Brehm and Brehm (1981), individuals respond to threats or losses to specific freedoms by either (i) resisting or acting counter to the attempted social influence, or (ii) declaring themselves helpless, and removing the freedom in question. In a study of motivational postures of regulatees, Braithwaite et al (1994, p388) found that two postures were “blatantly antagonistic to the regulatory regime, one pleading helplessness (disengagement), the other offence at government intrusion and lack of funds (resistance)”. By contrast, a third posture (managerial accommodation) involved acceptance by regulatees that the law has to be obeyed and that every effort should be made to comply, and a fourth posture (capture), “represented identification with the regulators and the attitude that ‘we are all on the one team anyhow’” (p388).

The third type of boomerang effect identified by Schwartz and Howard (1981) involves the undermining of internalised benefits by external sanctions. Imagine an individual who is motivated by the anticipation of warm glow, to volunteer 2 hours work per week at the local charity. Suppose, that the charity then decided to remunerate all workers at the rate of \$10 per hour. The external reward may reduce the likelihood of work because it is now less clear that the individual is acting purely out of the goodness of her own heart.

Although references to characteristics such as ‘perceived manipulateness’ of an appeal fall within the realm of procedural concerns and notions of fairness, Schwartz’s discussion of procedural considerations appears to be limited to the way in which the helpee makes her requests. Procedures adopted by third party intermediaries receive little if any explicit attention. Despite the lack of reference to third parties, Schwartz and Howard (1982) do identify some of the key contingencies of cooperation. They observe, for example, that findings “regarding trust are particularly important to clarify the reasons for boomerang effects in helping. Trust may also play a central role in the definition of the parameters of need and of the costs and benefits of helping” (p351). Braithwaite et al (1994) concluded that both social bonds and shared understandings of goals between regulators and regulatees held the key to understanding regulatory compliance. Treating regulatees with trust, regard and respect can contribute to the “emergence of shared understandings and goodwill, and these, in turn, translate into cooperation and compliance” (Braithwaite, 1996, p7). Makkai and Braithwaite (1994), for example, found that praising regulatees may improve compliance, and Braithwaite and Makkai (1994) found that treating regulatees as trustworthy had a similar effect.

Tyler (1990) recognises the role of organisations with respect to cooperation, arguing that individuals evaluate political and legal authorities against criteria of distributive and procedural fairness, and that the perceived legitimacy of these authorities then affects how individuals respond to their demands. Subjective *distributive justice* is concerned with perceptions regarding the fair allocation of scarce resources, and is hence concerned with outcomes. In the tradition of Adam’s (1965) equity theory, some individuals will favour situations in which outcomes are proportional to inputs. Some others might follow more in the tradition of Homans (1961), adopting norms of equality whereby situations are favoured if they involve equal share amongst all. Others might adopt norms of needs-based allocation⁹. Subjective *procedural justice* is concerned with the perceived fairness of procedures with which decisions are made (see Lind and Tyler, 1988, Mellers and Baron, 1993). Individuals may, for example, evaluate government decisions more positively when they perceive that the public has had the opportunity to participate in the decision, when the decision-

⁹ Wenz (1988) discusses principles of distributive justice in the environment sphere.

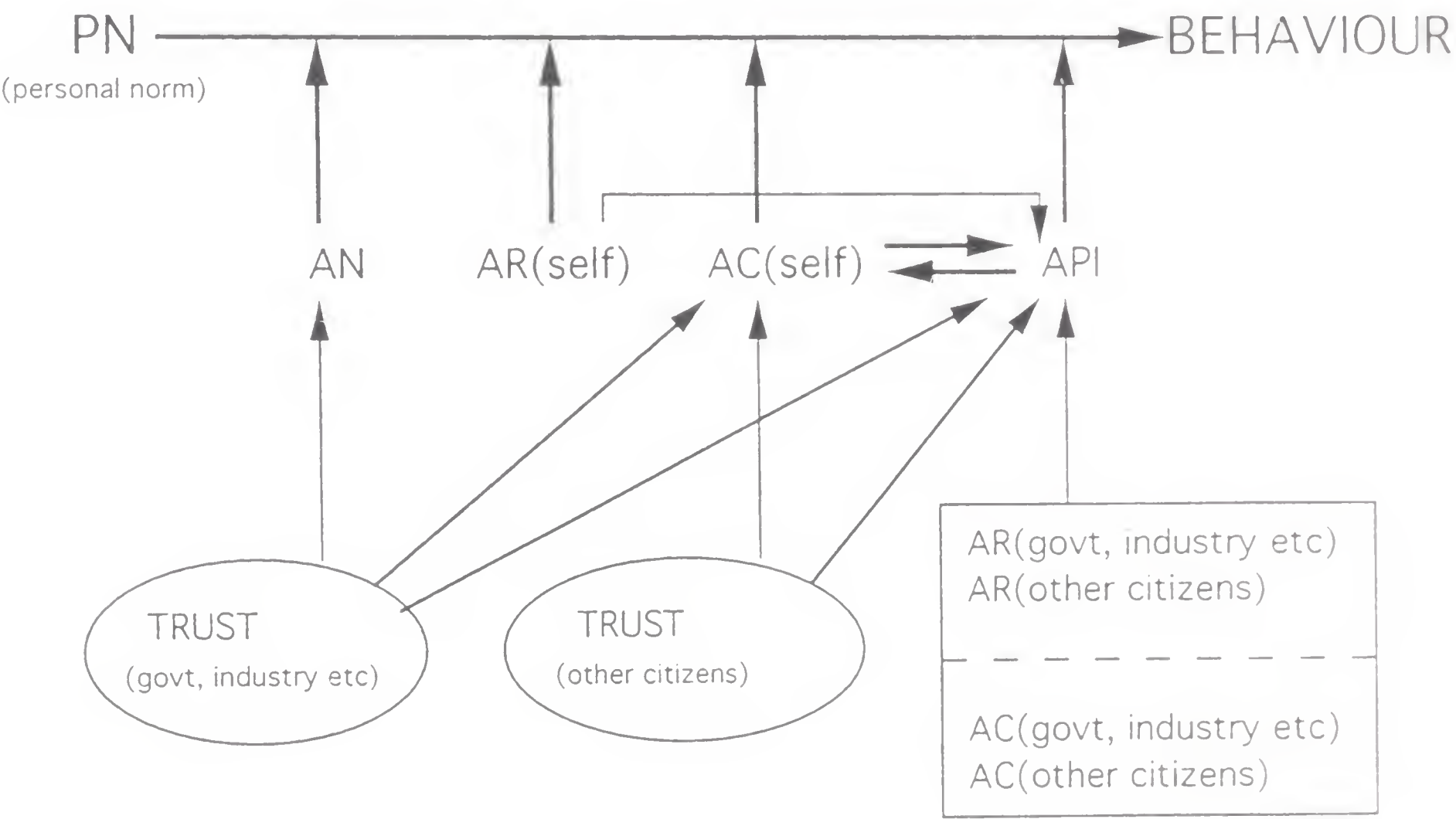


Figure 2: Extended Norm-Activation Model

making process is perceived to have been neutral or unbiased, and when they have been treated with dignity and respect by the government and its agents.

An important question is whether organisations and associated principles of justice have an influence on norm-activation that is independent of AR and AC. Although many perceptions regarding organisations, institutions and policy initiatives clearly have a direct bearing on AC and AR, it is not clear that this applies to all such perceptions, particularly those relating to questions of justice. An individual might ascribe responsibility to herself, and accept that her contribution will have the required consequences, but object to the responsibilities of others implicit in the policy proposal. Alternatively, the individual may object to the manner in which a request is made. A third broad category of moderating effect, which is labelled here as *acceptance of policy initiatives, API*, is needed. API refers to the extent to which AR and AC are *implemented* in a way that does not cause the individual to react or protest. Such protests will generally result in inaction. It is intended that API include implementation considerations where no formal policy initiative exists, as is often the case when voluntary contributions are sought. Figure 2 summarises some of the main relationships expected among AR, AC and API. The precise relations among different manifestations of these constructs will clearly vary with the context of application. AR(self), AC(self) and API all have direct moderating effects on the norm-behaviour relationship. Note that notions of trust can influence norm-activation in several ways.

3.5 Summary of Required Extensions to Schwartz's Model

Table 1 summarises the main extensions to Schwartz's model that are required when considering norm-activation in the context of contributions to public goods. Figure 3 illustrates the extended process-model. Consider each row of Table 1 in turn.

Awareness of Need: Although the original model of Schwartz (1977) was developed with human helpees in mind, the same principles can be expected to apply to non-human helpees, such as endangered species. In contrast to the unilateral helping relationships considered by Schwartz, where responsibility is often clearly and narrowly defined, and the helper is able to directly alleviate the need of the helper, responsibilities in the public

good case are often less well defined, and direct action is often not possible, or practicable. When considered in conjunction with the great many environmental and other good causes to which individuals can contribute, it is apparent that norm-activation in the public goods case may occur with a greater level of indifference, being prone to greater influence by situational cues, and greater use of decision heuristics. Individuals are likely to consider substitute causes, and the relative need or importance of difference causes. Further, alleviating environmental needs often involves opportunity costs. Individuals who believe that the forest should be logged to provide economic benefits are likely to refuse to donate to 'save the forests' funds. Although such individuals will sometimes drop out of the model at the attention stage, experiencing no feelings of guilt, they will often move on to the next stage, where they may feel a need to express their pro-development values. In cases where provision of a public good requires some form of intervention, individuals may need to be convinced that the intervention does not create its own impacts, or that such impacts have been taken into account.

Ascription of Responsibility: Although AR(self) is common to both the original and extended models, one might expect a consideration of who benefits from treatment to play a greater role in the public goods case. The non-excludable nature of public goods means that a great many individuals may benefit from treatment, leading to the perception that those who benefit from provision of such goods should contribute towards their provision.

The importance of shared responsibility, and trust in other citizens has already been discussed in detail, as has the role of third party organisations. With respect to the latter, it is interesting to note the work of Stern et al (1986, p205) who used the model to help explain judgements (personal norms) and intended actions regarding the moral obligation of industry and government to resolve hazardous chemical problems. Results showed that although judgements concerning the moral obligations of industry depended on both AC and AR(industry), government was held to be morally responsible to act even if it was not responsible for the problem.

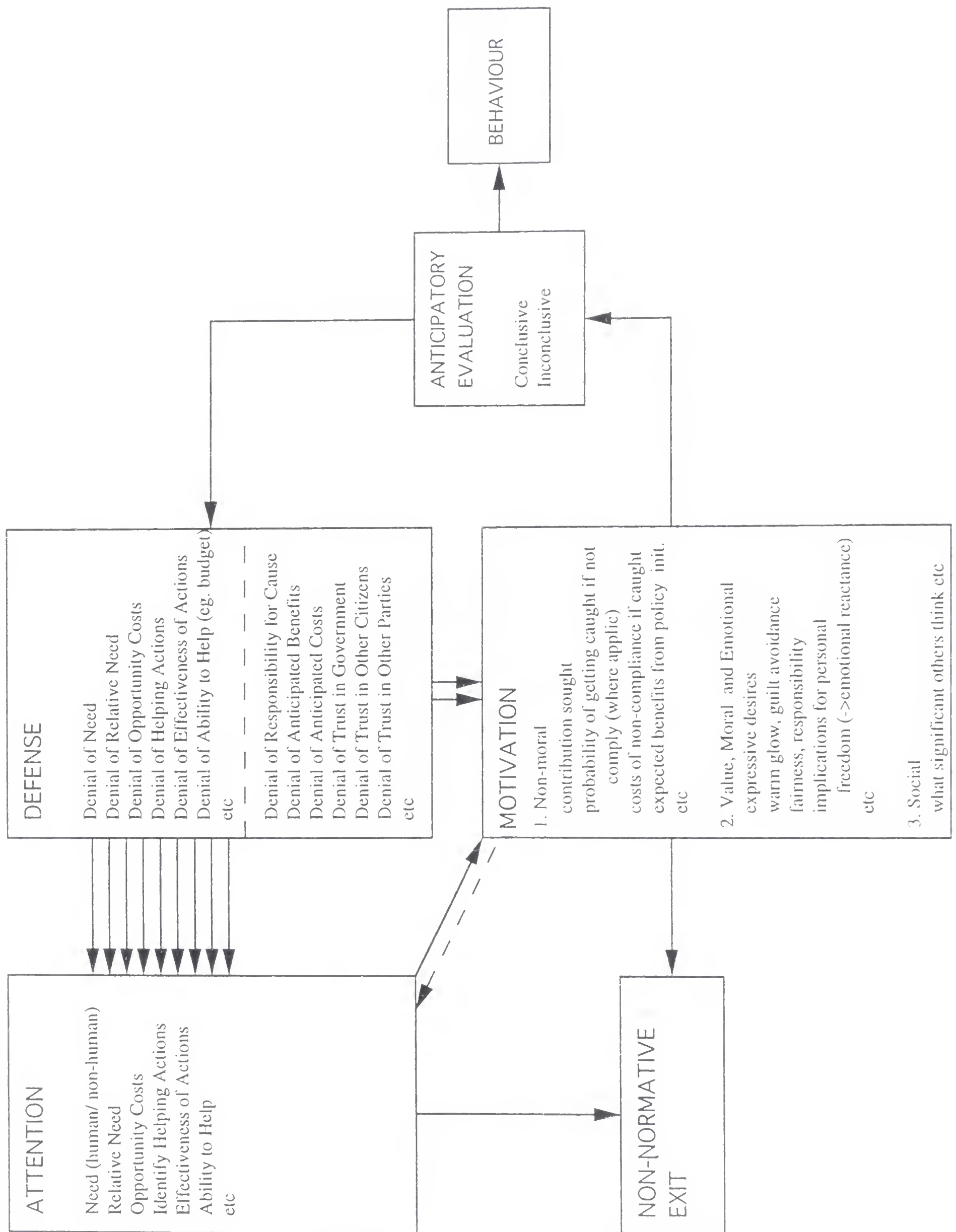


Figure 3: Process Model Of Norm-Activation When Public Goods Are Involved

Table 1: Extensions to Schwartz's Original Model

	Original Model	Extended Model
Awareness of Need (AN)	1. Identify individual(s) in need 2. Identify indirect needs of friends or family of person in need	1. Identify human or non-human species in need 2. Identify indirect needs. For example, human dependence on public goods 3. Relative need of this cause, compared to others (substitute and complement causes) 4. Opportunity costs of satisfying need (mutually exclusive needs) 5. Impacts of Proposed Intervention (where applicable). For example, will pipeline create its own impacts
Ascription of Responsibility (AR)	1. To self -responsibility for treatment -responsibility for cause of problem -ability to help 2. To other members of society -diffused responsibility	1. To self -responsibility for treatment -responsibility for cause of problem -expected beneficiaries from treatment -ability to help 2. To other members of society -as for self but concerned with responsibilities of other citizens. -shared responsibility -diffused responsibility 3. To third party organisations (eg. Government, industry) -as for self, plus -organisational responsibilities
Awareness of Consequences (AC)	1. Consequences for helpee -will intervention be effective in preventing impact 2. Consequences for helper (self) -physical, material or other direct implications -moral and value implications -social implications	1. Consequences for helpee -will any intervention(s) be effective in preventing impact (-trust in government & scientists) -perceived decisiveness of individual behaviour -decisiveness of collective (eg decisiveness of survey outcome, decisiveness of petition) -would government do its bit? (eg would funds be earmarked?) -would enough others contribute? 2. Consequences for helper (self) -physical, material or other direct implications, including costs of non-compliance (could contributions be avoided, perceived probability of getting caught, consequences of getting caught) -moral and value implications -social implications 3. Consequences for society more generally -social benefits -social costs
Acceptance of Policy Initiatives (API) -including all forms of implementation of AC and AR	Boomerang Effects: Has helpee's appeal for help been made in a manipulating and/or biased way, or in a way that undermines motives?	Who do initiatives imply is responsible for treatment? What would consequences be of these initiatives? What organisations/ third parties are involved? How trustworthy are these organisations? Are initiatives distributively fair? Are initiatives procedurally fair? (including the question of whether helpees or parties acting on behalf of helpees, have appealed for help in manipulating and/or biased way, or in a way that undermines motives?) Are initiatives practical? (transaction costs etc)

Awareness of Consequences: In the case of public goods, assessing the consequences for the helpee will involve greater attention to third parties such as government and scientists. The recent unintended release of the calicivirus in South Australia is unlikely to have aided trust in scientists. Another factor incorporated within the extended model but not the original model involves the decisiveness of individual and collective actions. An individual signer of a petition has little influence on the outcomes at stake, and indeed, so may the results of the petition as a whole: government may not attach much weight to the petition when making a decision. A perception that government does not listen clearly reduces the perceived influence of individual actions, which in the case of voting behaviour, can cause individuals to attach greater weight to expressive concerns at the evaluation stage.

Although consequences for individual actors fall within the same three general categories in both the original and extended models, the significance of different consequences will vary dramatically on a contextual basis. One would expect, for example, that perceived costs of non-compliance would tend to be higher in cases of regulatory compliance than voluntary contributions. Expressive factors will, however, often play a greater role in motivating voluntary rather than compulsory contributions. Submitting one's tax return may not engender the same feelings of warm glow that a donation to charity might. In Figure 2, AR(self) is essentially the responsibility the individual ascribes to herself, *prior to an evaluation of the policy bargain*. AR(self) will be influenced by acceptance of responsibility for the cause of any problems contributing to the need for the policy initiative, and any personal benefits that are expected to emerge from the initiative. The third type of consequence, which features only in the extended model, pertains to consequences for society as a whole. Because individuals may perceive that responsibility should be shared among other members of society, who also stand to benefit from treatment, it seems natural that individuals may think in terms of costs and benefits to society as a whole, rather than just to the helpee(s) and themselves.

The peripheral way that Schwartz addressed procedures and policies involved in the implementation of AR and AC has previously been discussed in detail, along with the proposed inclusion of API in the extended model.

A question that arises is the order in which the individual processes AN, AR, AC and API, and the various beliefs within each. Although it is expected that AN would normally precede AR, AC and API, the order in which the last three categories of belief are processed is by no means clear. Indeed, stage 1 of Schwartz's model will potentially involve elements of all four categories. In some contexts it is clearly unrealistic to expect all individuals to have completed their initial assessment of all aspects of the need stage, before proceeding to the effective action stage, and then the ability stage. One would instead expect the order of processing to depend on the interaction of contextual factors with individual factors such as held values, beliefs, dispositions, physical and emotional state, and endowment (eg. income) (Blamey, 1996). From a symbolic interactionist perspective, we might say that in addition to meanings that are generated by the social structure, and biological factors, are meanings that arise from processes of interaction, and the interpretive procedures that this involves.

An individual who is informed at an early stage about the opportunity costs at stake is likely to consider this factor earlier, on average, than those who are supplied with the information later. The same can be expected to apply to information regarding policy initiatives, impacts of proposed interventions, government responsibility and so on. Iyengar (1990, 1989) considers the way framing can influence ascribed responsibility. Whilst individuals will often be oblivious to consequences and even needs for which they are not responsible, an awareness of consequences of possible action may also precede assessment of responsibility. A series of iterations among AN, AR, AC and API is a key feature of the process model outlined above. Similar considerations apply to the way costs and benefits are evaluated.

The extended norm-activation model presented above is clearly more encompassing than the original model developed by Schwartz, and provides a more complete framework with which to view the activation of norms in the context of public good contributions, than the simple transformation adopted by some authors, as noted in the introduction. It is interesting to note the following statement made by Hopper and Nielsen (1991, p217) at the end of their conclusion; "To be sure, many social and institutional factors excluded from this study also play a role in motivating household recycling. On an individual level, however, altruistic motivations have been

found to be one relevant factor. Moreover, deliberately introducing social interactions around recycling efforts can substantially increase behaviour, whatever the motivations may be". Although Stern et al (1986) make some important distinctions between personal action and social and political action, for example, the importance of beliefs concerning the responsibilities of industry and government, they focus the vast majority of their discussion and analysis on social and political judgements, and not action. They are left to "presume that the personal norms...re-enter the social sphere when people take political and social action..."(p207). The incentive-structure that individuals face in the transition from social judgements to social action is not discussed.

The extended model of norm-activation outlined above has quite a lot in common with Levi's framework for considering contingent consent. Levi (1991, p1) refers to contingent consenters as "those individuals who want to act morally, who would like to contribute to the collective good, all things being equal, but who will do so only under certain conditions". The conditions of consent that Levi outlines include a positive evaluation of the collective good, social norms and values that produce feelings of obligation, a belief that collective action is needed to produce the collective good; a belief that the costs of consent are bearable, an assurance that most others are contributing, and that government can be trusted to do its bit. In contrast to the framework outlined by Levi (1993), the model presented in this paper pays greater attention to the processes through which individuals bring the various factors together in reaching their decisions, and is more encompassing in terms of the contingencies outlined, and the range of potential applications.

4. A Case Study Example

The extended norm-activation model presented above can potentially be applied to many different types of individual decisions. The intention in this section is to illustrate how different components of the model are manifested in one particular case study. The case study involved asking individuals if they were prepared to make a \$50 contribution to a project designed to prevent a decline in environmental quality of the South Australian Coorong.

Because it was not possible to ask individuals for *actual* donations, individuals were presented with a questionnaire which explained the basics of the proposed project and then asked if they *would be* prepared to make a \$50 contribution toward the project. Individuals were told that the questionnaire was a draft of a questionnaire that the government was intending to send to a large sample of individuals. Focus group sessions were then held in which individuals discussed the proposal in detail, enabling extensive qualitative data to be obtained¹⁰. These qualitative results are presented in section 4.2, following a more detailed outline of the methods.

4.1 Methods

The qualitative research presented in this section focuses on the identification and illustration of factors that influenced individuals when deciding whether to promise the above-mentioned \$50 contribution. The project involved the building of a pipeline designed to protect the South Australian Coorong (and nearby Tilley's Swamp) from being negatively affected by water coming out of a groundwater drainage system, the purpose of the drainage system being to reduce agricultural problems associated with rising groundwater tables in the Upper South East of South Australia. The important question for the purpose of this research was what to do with the water that comes out of the drainage scheme. Should it be allowed to flow into the Coorong, thereby altering the natural environment of this world heritage area, or should a pipe be built to divert the water out to the ocean, before it enters the Coorong? Individuals were told that the pipe would be expensive, and were asked if they were prepared to make a once-off contribution of \$50 toward the pipe. In order to see how individuals respond to different modes of payment, for example payment through a levy on income taxes as opposed to water rates, participants were presented with several possible payment mechanisms, one being included in the initial questionnaire, and other possibilities being raised later in the discussion.

¹⁰ For an interesting alternate environmental example of the use of small groups, see Burgess et al (1988a,b).

¹¹ Krueger (1988, p18) defines a focus group as a: "carefully planned discussion designed to obtain perceptions on a defined area of interest in a

Data was obtained from 9 focus group sessions^{11 12}. Discussions began at the most general level, with the facilitator first requesting respondents to fill out a questionnaire, containing basic information about the origin of the groundwater, the impacts that water coming out of the groundwater drains would have on the Coorong, and how the pipe would prevent these impacts, but at a cost of \$50 per head, to be charged in a particular way. The questionnaire finished by asking individuals whether they were prepared to make this payment.

An important question that had to be addressed in designing the questionnaire was how much information to present respondents with, and of what type. Although it would be unrealistic to expect respondents to make informed comments in the absence of information about the project, we did not want to prime their thoughts too dramatically. In order to obtain a comprehensive pool of beliefs important to individuals in reaching their decisions, individuals were asked open-ended questions regarding both what was included in the questionnaire, and what they thought had been omitted, or was not covered in sufficient detail. The open-ended prompts took the following form: *What influenced your response the most?; Did you find anything to be unclear or ambiguous?; Is there anything that you disagreed with or didn't like?; Was there any information that you thought*

permissive, nonthreatening environment. It is conducted with approximately seven to ten people by a skilled interviewer. The discussion is relaxed, comfortable, and often enjoyable for participants as they share their ideas and perceptions. Group members influence each other by responding to ideas and comments in the discussion.”

¹² A key advantage of the focus group over structured and even semi-structured interviews is that respondents are not limited by the choices offered. By providing a less intimidating environment, and permitting the participants rather than the interviewer to take the lead, focus groups can also have advantages over non-directive interviews that use open ended questions. Researchers can thus see reality from the subject's point of view (Krueger, 1987). Qualitative research is clearly important for identifying the beliefs and attitudes that individuals actually consider when making environmental decisions, and gaining some idea of the relative importance of these constructs. Identifying the importance of given beliefs using regression analysis is complicated by the tendency of environmental beliefs to be correlated with one another, meaning that a statistically significant regression coefficient does not necessarily indicate that respondents considered the particular construct at the time of formulating their response. Rather, variables may attain statistical significance solely through their correlation with more generalised environmental attitudes.

was missing?; What further information do you think you need?; Did you think any of the information was biased?

Because impacts to the Coorong are potentially of national significance, the focus groups were held in three separate geographic regions: the local town of Naracoorte, the nearest major city, Adelaide, and interstate, Sydney. Available resources permitted 3 focus groups to be held in each of these locations¹³. The particular group to which the verbatim quotes listed below correspond is indicated at the end of the citation for each quote, using the abbreviations N1-3, A1-3, and S1 to 3. N2 thus refers to the second focus group conducted in Naracoorte. Where exchanges among several individuals are given, the first individual's statement is preceded by a '1', the second by a '2', and so on.

4.2 Results

The focus here is on identifying the numerous ways in which AC, AR and API manifest themselves in the context of the case study. Although all 4 stages of the norm-activation model are considered, most of the beliefs correspond to stages 1, 4 and 2(i). Although psychological and social implications, along with anticipatory evaluation, are expected to be important components of the model, they are less amenable to identification through self-reports. Similarly, it is difficult to identify whether a given belief is associated with an individual's first encounter with stage 1, as opposed to subsequent defensive encounters.

Results indicated that the main beliefs driving the formulation of individual decisions could be loosely grouped under the following five headings: (i)

¹³ Recruitment was undertaken by a professional recruitment agency, the only specification being to ensure that approximately 8 individuals aged 18 or over turn up at any one meeting, and that overall the group profile should be as demographically representative of the general population for that town or city, as practically possible. Groups were held at 10.30 am, 6pm and 8pm, and lasted an average of approximately 1 hr and 40 minutes. As one would expect, slightly more women than men were recruited, particularly for the 10.30 am meeting. Participants covered a wide range of age and socioeconomic groups. The minimum attendance at any 1 group was 7, and the maximum 10. Overall, 52 respondents attended the 9 focus groups. With the exception of Naracoorte, where focus groups were held in a unused motel dining room, the groups were held at specially designed facilities, with viewing rooms and video and audio facilities. The author moderated 6 of the nine groups, with a colleague moderating N3, A2 and S2.

awareness/denial of need; (ii) identification and assessment of proposed intervention/ solution; (iii) responsibility for treatment; (iv) identification and assessment of proposed payment; and (v) other boomerang effects and procedural and distributive concerns. These categories are not mutually exclusive. The notions of responsibility identified in (iii), for example, pervade much of (iv), and (v).

4.2.1 Awareness/ Denial of Need

In the present study, awareness and denial of need were found to manifest themselves in several forms. The first of these relates to awareness and acceptance that an object or objects are in need. In this case this involves acceptance that the Coorong would be negatively effected by a rise in water level.

What would happen if the water level did rise-Would some other things flourish? N1

Are there individuals that are going to suffer from it? There could be a five kilometre variation in the swampland. Is it going to impact on individual properties. N1

You need to know how endangered some of these species are...N3.

Has there been an environmental study on it. N1

The fact that the Coorong is a national park, and a world heritage area, provided an important indicator for individuals of the need to leave it in its current state:

1 the last sentence where it says Australia has international obligations really sums the whole thing up. We cant touch it

2 it carries a lot of weight A2

Exposure to media coverage of the issue was also taken as an indicator of importance:

I've never even heard of this issue until tonight...so why hasn't this been publicised earlier if it is so important. S1

I've never heard of this but ...I've heard of cotton farmers pinching all the water, I've heard of many environmental issues but I'm sorry I've not heard of this one so isn't there other bigger problems...why is this

such a big issue to me if all the other environmental issues are overcrowding this one. S1

Several participants, in several groups, wanted to know what the natural state of the Coorong was. The need for action that prevents water level rises is then assessed in light of this historic reference level.

If you talk to many of the old people who lived around the Coorong many many years ago they'll tell you that they never had the smells that we have now. N3

What's naturally been happening? S1

If you've ever been there you'd think the more water you'd put there the better get rid of all that smelly rotting aquatic plant matter..would flush the whole thing out. A2

Some individuals seemed less concerned with the specifics of the situation in the Upper South East, focussing their comments more on attitudes and beliefs of a more general environmental nature. Some participants appeared to think of their possible contribution more in terms of doing their bit to help the environment as a whole, than paying money to obtain a specific environmental improvement. The following comments are illustrative of this *symbolic tendency*:

It's a dollar a week. ...You wouldn't even miss it... Australia-we've got a great country-We should be looking after our country. ...I feel very strongly about what has happened with the environment-and I think a dollar a week is not much. S1

1. I reckon I'd pay the money. 2. I care for the environment...S1

1 I'm not a greenie. I have my own ideas but I do believe that the environment should be left the way it is

2 Just leave everything the way it is...S1

4.2.2 Identification and Assessment of Proposed Intervention/Solution

As previously noted, the questionnaire with which participants were presented mentioned that a pipeline could be built to avoid impacts of excess water on the Coorong. As with most requests for donations, a specific need must be described to individuals, before contributions are sought.

Individuals' responses to this information indicate the importance that they attach to it. A number of individuals, in several groups, questioned not just whether the pipe would work, but also whether the drainage system that is responsible for the increased flows, would work:

So this [drain] would help us...*Supposedly* help us (2nd participant). N1

You say it's going to improve these things...I beg to differ ...I think it may not improve it. And like, are there going to be ongoing costs that we're going to have to suffer from doing this...There will be maintenance on a pipeline. N1

Will the aboriginal people let the pipeline go through there? N1

Are there any alternatives to the pipeline, such as desalinisation plants. A1

Let's not spend all this multi-million dollars-let's chuck a few million dollars at farmers and relocate them. S1

A common theme running through most groups involved consequences of building the pipe:

It might be a tourist attraction (jokingly)A1

Why isn't there any impact on the ocean [of putting the water in there]?N3

I just wondered whether there might be something about the visual impact of what this thing would look like. You thought of think it would look very ugly, but it might not look so ugly? N2

What..ahh. sort of effect is that pipeline going to have coming across the land. ...What sort of clearance do they have to do...Will that cause erosion...A1

Some individuals needed less convincing, as the second individual in this exchange:

1 Is it absolutely necessary that they have to have the pipeline. Is it the only way of doing it? 2. I think you'll find that these things have been fairly intensely studied. A3

One effect that the request for a financial contribution had on individuals was to make them defensively re-analyse the need for the pipe. The presence of other environmental and social problems meant that this often

involved the assessment of relative need, or need in the presence of substitute and complement causes. Generally speaking, the further individuals lived from the Upper South-East, the more concerned they became with this matter:

People could look at this and probably identify a 100 other [environmental] issues of approximately equal importance. A3

So many things need doing in the environment. We've got to get the priorities right. Because we can't go on paying and paying. S1

I think it confuses people. If you do your own housekeeping and you want to buy a new fridge, a new washer, new carpet, what do you do- you buy one thing at a time. 2 You prioritise. A3

This sought (sic) of project, it really needs to be done in a variety of places, not just in the Coorong area. It needs to be done all the way out through the Murray River System. What's so special about this area? S1

A common theme concerned the effectiveness of individuals' payments. Of particular concern, was the extent to which government would earmark, or target, donations for the pipe (ie trust in government):

Will it be like the road taxes? Will it go onto what they say it will? A3

Look at the petrol tax that we are paying...It doesn't go to the roads. A3

1. We'll agree to a voluntary environmental levy if...all the money that is given goes in material 2. and not in wages. 1 You've got a cynic in the audience. A3

To just add more taxes on would be filling the pockets of the politicians. A2

More commonly, however, individuals were not concerned with whether they were able to help, through payment, but rather whether they were responsible for such action.

4.2.3 Responsibility for Treatment

Two key considerations in ascertaining responsibility for action, both to oneself, and others, are ascription of responsibility for cause of the

problem, and identification of beneficiaries of the action (Brickman et al, 1982).

a) Cause of problem

Respondents in the Naracoorte groups correctly identified the main three causes of the salinity problem. Clearing of vegetation, irrigation, and the lucerne aphid crisis. There was some recognition that bore water comes from Western Victoria. It was commented that it's not just the South East's responsibility. Indeed, when asked whether Western Victoria should pay, one participant stated 'Absolutely', and another jokingly stated that 'I reckon they should pay all of it given that they got our Grand Prix' (N1). It is important to note that responsibility for the salinity problem is distinct from responsibility for the problem created by the drainage system. Although a number of participants attributed both problems to farming practices, some attributed the problem associated with the drain to poor government decisions:

1. We all need our farmers don't we. 2 But a lot of city people don't think that.

It's their [Adelaide people's] rubbish that gets into the rivers. And they can stop that by not dropping their litter. But the farmers can't stop the salt coming up in the soil. It's out of their control. N2

The problem is, when people started to farm like that back 200 years ago, they didn't know about these things...They are changing their practices, but there is still a lot to be done.....You treated disease 20 years ago differently to how you treat it now...so it's not totally the farmer's fault. S1

They haven't told us what is causing the salinity in the first place....He's [the farmer] gone there and decided to plant on it, and it's not working out. Get off the land! I'm a businessman, if my business dies, no-one is going to come and give me a \$50 levy and say I'm sorry mate your business is not going very well. S1

To me it sounds as if they [government] should have done a more thorough EIS before they approved it [the drainage system]. S2

b) Beneficiaries of solution

A question that commonly arose was whether individuals living outside SA should have to pay. Some participants thought that the States could better deal with their own issues:

NSW government could concentrate on say the Parramatta river, the Nepean river. Victoria and... SA could maybe get together for the Murray and stuff like that. S1

Why should we pay? It's in their backyard. S1

Others thought preserving the Coorong is a national responsibility:

The Coorong not only benefits SA but it benefits all of Australia-so everybody should chip in. A3

I'd like to see it Australia wide, because the Coorong is a national heritage to the whole country. It's not something South Australians are only proud of. There are a lot of Australians who are also proud of it. So I'd like to see the whole of Australia pay for the pipeline.

One person in A1 commented that people are more aware of rainforests, and the Coorong would be better known if it had a rainforest in it. Some participants seemed to think that whether or not the Coorong is considered to be of national importance depends on public awareness of it. If people were made aware of it, it would be of greater national importance. However, on probing, they agreed that people should pay if it is actually of national importance, but they are unaware of this.

Although a number of participants thought that, in principle, all of Australia should pay, because all of Australia stands to benefit from improvements in the Coorong, they were less willing to endorse such a requirement when *norms of reciprocity* between States were considered:

...one thing that concerns me...is that if you set a precedent...the Coorong needs this and we get Australia to do it...what if there's a thousand million dollars of work that wants doing in Queensland...once you get a precedent set you'll be paying for environmental problems in other states. A2

1. We can't afford to pay their problems. Why should they pay ours. 2
We do. N1

c) *Ability of others to pay.*

Some individuals thought that those who are least able to afford payment should not have to pay anything, or at least not as much as others who are

financially better off. Thus even though individuals may have contributed to a problem, and stand to benefit from its treatment, it may not be appropriate for them to pay:

1. People who are on the dole...and pensioners- do they have to pay too?
2. Well they couldn't afford it. A3

I'd want to know more about the levy. How is it going to be collected? What, is it going to be a % of your wage, or is it going to be a flat rate. Coz pensioners ...are they going to pay the same amount of money. S3

d) Implementation of responsibility

A key component of the extended norm-activation model is the extent to which individuals accept policy initiatives pertaining to the implementation of AC and AR. The focus group discussions highlighted the importance of the distinction between AR in principle, and AR as implemented as part of the proposed policy initiative. These findings are presented in the next two sections.

4.2.4 Identification and Assessment of Proposed Contribution (Payment)

As noted earlier, the reaction of individuals to several different payment mechanisms was explored in the focus groups. Consider how individuals responded to these different suggestions.

a) Payment through a levy on income tax?

There was quite a lot of resistance, in all but one group, to the notion of funding the pipe through an increase in income taxes.

Its an inappropriate method of collection anyway, because...a lot of people don't lodge tax returns. S1

Why not the general taxpayers...too hard to administer? N3

1 Too much evasion...and you don't know whether its really going there then

2 also inequitable. N3

Some were more positive, however:

1. I think it's probably the easiest way. 2 It's the fairest way. N2

I think this [income tax] is an appropriate way to pay for the pipeline, because the Coorong area and that belongs to all of SA... N2

Some participants suggested that a progressive tax would be more equitable:

1. They could vary the amount on your income. If you earn \$50000 a year you pay \$100. If you earn \$5000 a year you pay \$20.
2. Maybe they could make it a sliding scale on people's income, and make it so that some pay more [than others]...But I think every single person should do something. N2

A major concern was with the size of the suggested tax increase. Participants wanted greater justification for a payment of this size. Because this concern also applied to other payment mechanisms, it is discussed in the next section.

b) Payment through an abattoir levy, passed on to consumers of meat products?

Overall, the idea of paying for the pipe through a levy to be imposed on abattoirs, and passed on to consumers of meat products, received little support, and for many was laughable. The main concerns appeared to be that (i) non-meat eaters should pay; (ii) abattoirs are suffering enough; (iii) other industries (such as wineries, and crops) are also responsible for the problems in the Upper South East:

So vegetarians get out of it. N1

It's an environmental issue and should be funded on a greater scale N1

Its a bit deceiving it sounds like the consumer is the only one who's paying it when in reality it will help to pull the price of livestock down...so the producer will bear some of the cost as well...the producer always ends up paying some of it. N3 (abattoir)

A small number of individuals supported the idea, for reasons such as the following:

Liked it ...because you can pick and chose when you but meat. N1

c) Payment through house or water rates?

The idea of payment through increases in property or water rates received mixed support among the groups. Obviously this mechanism is most feasible at a local, or possibly State level. For the purpose of redirecting

water, payment through water rates appeared to make more sense to individuals than payment through property rates. The fact that various levies on water rates have already been imposed in some areas, for example for improving the environment and water quality of the Murray River and Patawalonga/Torrens (Adelaide residents), appeared to create a degree of resistance to the suggestion of further rates increases. Some individuals began to wonder what their rates *are* paying for? Payment through rates was also questioned on distributive grounds. Numerous individuals appeared to conduct a type of *incidence analysis* of the proposed payment arrangements:

Everyone's not all paying anyway, because a lot of people don't even own a house. N2

But everyone doesn't pay water rates. They have pumps and things. They get their own water. N2

I don't pay house rates. I don't pay water rates. So I mean, I can't say yea or nea. N2

1. The people who are renting...they miss out again...2 If they've got to raise the money from somewhere it should be a general tax that everybody pays. Not just householders. A3

On the likelihood of house owners passing the levy on to tenants:

Don't think they would do that. How would they do that? They sign a lease with the rent on it...It's very hard for the landlords to change the rent. N2

d) Government responsibility for payment

A theme that arose in every group, and discussed at length in many, concerned the responsibility of government to pay for such interventions through existing taxation revenue. Individuals who believed that the pipe should be paid out of consolidated revenue, did not see themselves as responsible for any payment in addition to what they already pay in taxes. Blamey and Common (1996) found widespread support for the belief that environmental improvements should be paid out of existing taxation revenue.

You cannot see very much of it [The Coorong]. But it's still an important part of our environment. The same as these other parts of Australia, and

accordingly, payment for it should come out of consolidated revenue, with some being paid by the SA government, some by the Australian government...A1

Let's fund this elsewhere from another department's revenue...or go across the broad range of state government departments and say well lets talk about a reallocation of ahmm budgets...A1

I think they need to get out to the public and say look this is what we have done...This is our income. This is what we have done. Give the public a balance sheet. A3

...These sort of issues are really what taxes should pay for. What do you pay your taxes for? You pay your taxes to have things that can't be done by private enterprise. A3

Yes we have to pay for it. But I don't support levies...If you haven't got enough money, you increase taxation [in general]. A3

4.2.5 How Much to Contribute?

The questionnaire stated that if the pipe was to be built, each Australian taxpayer would have to make a once off additional payment of \$50. Participants were generally aware of the impact this \$50 would have on them:

1 for my daughter it would be like a hit on the back of the head....

2 That's really difficult (emotionally). We're all being squeezed for more and more...You want to do all of this...You want to. A1

That \$50, it could be your kid new shoes. S1

1 I could think of about 20 things I could go out and buy for \$50. Giving \$50 to SA-when it's not even NSW...2. I think that's a lot. \$50 for *every* person in *Australia*. 3 That's a lot of money S1.

However others suspected that it would actually cost them more than \$50:

More likely more...There's always added costs. A1

One of the more interesting findings concerned the information participants needed when deciding whether or not to favour the pipe at a cost of \$50 per head. A constant theme, that ran across all nine groups, with consensus in

most if not all groups, was the need for information regarding the total cost of building the pipe. By dividing this estimate by an estimate of the number of individuals paying, individuals could then decide whether the \$50 per head figure was reasonable. The question of whether to favour the pipe at a cost of \$50, was then framed as follows: Would the social costs associated with a decline in the value of the Coorong (and Tilley's Swamp) exceed the cost of building the pipe, in millions of dollars?

I think it is insulting people's intelligence not to give them an estimate [of cost]. S1

1: This \$50...is that for the whole of South Australia...It says by each SA landowner...That seems outrageous to me ...That's a huge amount of money. 2: But its going to cost a huge amount of money. 3 Well how many people are in SA.....A million and a bit....\$55 million say. N1

I think they should put in here what they estimate its going to cost... They need to say how much they are going to raise from each household. List the percentage that they probably won't get...ahmm...and what the pipeline's expected to cost. You need a costing in this because people won't agree to pay \$50 if it doesn't sound credible. N1

1. Does that [\$50] have any relation to the actual cost of the pipe? ...Just trying to estimate how many landowners there would be in SA that would have to pay that \$50. Well...I really have no idea, but I would say that it might raise...somewhere between 5 and 10 million dollars. 2. It doesn't say how much it raises. Whether it would cover the cost or not... 3 I was curious where the \$50 came from. A1

It does not say how much in total this is going to cost? It can only cost 400 million and we are talking 12 billion. What are they going to do. Paint the pipe every 12 months. S1

I'd like to know how much the whole thing is going to cost....Every taxpayer in Australia paying \$50 is a hell of a lot of money to build a pipe. S1

How many taxpayers? If there is 10 million taxpayers, paying \$50, that's \$500 million...! S1

We need to know what the pipe costs so we can decide if the Coorong is worth it. S1

A common assumption of participants, in the South Australian groups in particular, was that an Australia-wide payment would mean less payment for each individual.

1. It wouldn't be \$50 [per head] if over entire region. If over entire region, might be \$5.

2 ...You don't know how many people [are paying]...N3

If everybody pays it's going to be a smaller amount [per head] than if only half of us pay. S1

4.2.6 Trust and Assurances

The extended norm-activation model indicates that trust in government, and trust in other citizens, are likely to be important factors driving individual decisions. Both found support in the focus group discussions. Because individuals were not informed of any industry commitments, discussion of industry tended to focus more on questions of responsibility than trust.

a) Trust in Government

A major theme running across the groups concerned trust, or lack thereof, in government. One variant of this concerned use of funds, which has already been considered. Another concerned the proposed once-off levy:

the other thing I wouldn't trust is the levy being applied for one year only...in my experience they never add onto the price of something and then take it off. Once its there they find an excuse to leave it there permanently. N3

I cannot believe them when they say that is once off. S1

I've got a lot of suspicion about once-off levies. We've all paid our once-off petrol tax for 5 years. We've all paid our once off levy on water rates, for a number of years, and lots of other once offs. And there's lots of other issues that might come up. S1

1. Once off becomes...2 very often once off. S1

Some of the comments reported in section 4.2.2 are also suggestive of a degree of *distrust in scientists*, the majority of whom work for government departments and public universities.

b) Trust in other citizens

The extent to which individuals trust others to contribute \$50 toward the pipe is evident in their different reactions to suggestions of compulsory and voluntary payment:

If it was voluntary, you'd probably find that a lot of people might leave it off...But if you were forced to do it, it's just extra on top of your tax.
N2

1. It should be a voluntary payment. 2 They wouldn't raise much then would they. A3

The following comments apply to the suggestion of voluntary donations:

1. Wouldn't get much there...It'd be a pretty small pipeline!
2. Won't work. N2

Wouldn't work coz they wouldn't get enough money. A3

You wouldn't donate \$50. It would be more like \$2. S1

1. And who pays the collectors and who pays the bankers. 2 It comes out of the money that you donate. 1 Too much money out of donations gets done in bookkeeping. S1

Whilst some individuals thought that compliance with rate or tax increases would be largely unavoidable, if implemented, others were less sure:

What happens if people don't pay. Would this be law?...Are we going to spend millions of dollars litigating these people. N1

You know what they do if you don't pay your rates. N1

4.2.7 Boomerang Effects and Procedural and Distributive Concerns

A range of concerns falling under this general banner have already been covered. Many of these involve a general cynicism, and rejection, regarding increased government charges. The way such concerns can lead to inaction is illustrated in the following statements:

I selected no [I wouldn't pay anything] because I don't see how it would happen that we would just get it once off. So I objected straight away.
A3

I just object to it coming through the taxpayer. Kick the middle class again. People who actually pay tax. S1

I'd pay a levy if I thought it was worth it. If I was convinced. Secondly, I don't think it is the way to collect the money. S1

a) Boomerang effects and biased information

The difficulty of providing information that a significant proportion of individuals will not view as biased was noted in section 3.4, and is illustrated by the following statements:

Its always hard to present a balanced view between showing an areas true worth and what the greenies really want everyone to think its true worth is. So if this is really a bipartisan approach it should be stated here that really no developer or no greenie has got an axe to grind here and that everyone is in agreement about the value of the area and that would balance it out. S1

1...sounded to me as it was a bit biased....

2 I'm sort of waiting for a hidden agenda to come up from behind..it sounds too goody two shoes for the government. A2

b) Importance of community input

Although the vast majority of participants thought that community input to environmental decisions was important, a few were happy to let government make the decisions.

I don't mind the government spending my taxes on all these projects, if the people were given the opportunity to vote on all these major projects in a referendum-or there might be an easier way of doing it that doesn't cost so much money. Like when you pay your rates and taxes. A3

I'd question the point [of community input] ...because we are paying guys to do it who know a lot more than we do. A3

c) Consequences of community input

Some respondents questioned whether the results of a community survey like the one with which they were provided would have any influence on the decision to build the pipe:

They're obviously going to build the pipe no matter what we think anyway. N3

No matter what the people think [on issues in general], the government will sort of say yes we'll do it... A3

5. Discussion and Conclusion

The results of the focus groups clearly indicate the complex nature of environmental preferences, and the tendency of individuals to construct, modify and defend their preferences partly on the basis of situational cues. The beliefs identified in these groups are supportive of the theoretical model presented earlier in the paper. The relative significance of the different Table 1 beliefs as determinants of individual behaviour will of course vary from one case to the next, as it will among different individuals, and different cultures. Opportunity costs, for example, would have played a far greater role if the funds were to be used to buy out farmers.

Although it is not possible in focus groups to identify the precise processes by which specific individuals formulate their responses, general process trends can sometimes be identified. As one might expect, the information contained in the questionnaire that most commonly triggered defensive reactions was that pertaining to payment. Such information caused the evaluations of many participants to become more evenly balanced, creating conflict, which they then sought to resolve by re-examining other information contained in the questionnaire. The focus of this re-assessment often involved payment related beliefs, such as: government and state responsibility for payment, trust in government to earmark funds, trust in government to stick to the proposed *once only* payment, required size of contribution and so on. Defensive re-assessments also involved other beliefs, however, particularly the need and relative need of the intervention. Assessments of relative need were particularly common in the Sydney focus groups, where the the Coorong is clearly lower on the list of government and community environmental priorities than many more local issues such as water pollution, and truly national and international issues such as global warming.

The model presented in this paper has implications for how researchers might attempt to model the adoption of green household practices, such as recycling. Studies that measure AC and AR in the context of isolated individual behaviour are likely to omit important factors that influence individual behaviour, such as the extent to which other citizens, and

government, are trusted to meet their commitments. The model also has implications for how charities might market their products, and how government might increase support for new social programs, or compliance with existing regulations. Governments are more likely to gain support for green taxes, for example, if they commit to handing funds over to a trust charged with the responsibility of implementing the program (a guarantee that funds will be earmarked). Individuals are also more likely to donate to voluntary trust funds when they are assured that their contributions will not be ‘wasted’ on projects that are financially undersupported. Such assurance may require a “money-back guarantee” to be written in to the contract (Schmidtz, 1991, p66). In a survey of community attitudes to forests, Blamey and Common (1996) found compulsory preservation taxes to be less objectionable than voluntary donations, largely because taxes were perceived to be more consistent with notions of shared responsibility, and less permitting of free-riding. Schmitz (1991, p2) observes that “even if no one desires that the government take his or her money, it might nevertheless be true that everyone desires that the government takes everyone’s money”. Arguments in favour of compulsory taxation need to be carefully balanced against psychological findings that suggest that policy instruments are *ceteris paribus* more effective when they are perceived as non-coercive (Young et al, 1996). Notions of fairness and responsibility thus need to be balanced against notions of freedom from coercion. Such considerations have lead some to advocate property rights mechanisms which “seek to compensate for, or reverse, market failure through mechanisms which make resource use opportunities consistent with social values” (Young et al, 1996, p113). As with price-based incentives, the objective is to internalise social costs and benefits. In the context of strategies for conserving biodiversity, Young et al (1996) discuss the advantages and disadvantages of regulatory, voluntary, price and property based incentives, in addition to more fundamental motivational, educational and informational incentives.

An interesting finding which emerges from the focus group results concerns the way in which individuals appeared to process the requested payment of \$50 per head. On the face of it, the findings in section 4.2.5 indicate considerable support for Kahneman et al’s (1993) claim that many respondents adopt a *contribution model* when processing such information, rather than the *purchase model* assumed by economists. In contrast to the purchase model, where individuals are assumed to ask themselves how much

they are prepared to pay to obtain a specified environmental improvement, rather than do without it, the contribution model assumes that individuals treat the environmental improvement as a good cause that warrants supporting, but for which any one contribution will only be “a drop in a large bucket”(Kahneman et al, 1993, p311). Guagnano et al (1994, p411) interpret the contribution model to further involve a perception that “the amount of the good provided is directly related to the total of all contributions”. Unfortunately, Kahneman et al (1993) do not elaborate on exactly how the thought processes implied by the two models differ. The above focus group findings help clarify matters. There appear to be two main reasons why a number of participants needed to know the total cost of the pipe, in addition to the per-head costs. First, they appeared to be making their calculations at the aggregate level. Thus instead of asking whether or not they value the particular environmental improvement at at least \$50, they ask whether the benefits to society as a whole are worth the costs to society, in millions of dollars. A second reason for wanting to know the total cost of the pipe was to help ascertain whether the stated cost per head of \$50 was reasonable value. If they knew the total cost of the pipe, they could then divide it by the number of people they thought would end up contributing, and compare the resulting figure with \$50. If it exceeded \$50, the payment would be considered good value, or a fair price, and the individual would agree to contribute, subject to some or all of the other contingencies outlined in sections 2 and 3 above. If instead, the \$50 fee was considered to be bad value, the legitimacy of the government derived figures would be questioned, and no contribution promised¹⁴. A further implication of the contribution model is that individuals may be willing to pay more money for locally funded environmental issues, than national or international issues that they value more highly. The reason for this is that many more individuals can be expected to contribute to national

¹⁴The importance of this distinction can be seen by considering how individuals might respond to the question ‘What is the maximum you are willing to pay for a compact disc?’ One might suspect that a common response would be in the vicinity of \$30, the current recommended retail price in Australia, and that this would apply irrespective of whether they are operating at the margin of their collection. In this case, \$30 is the most the individual is prepared to pay, without feeling that she is being ripped off. Any higher than \$30 would be unreasonable. Of course, if the price of all CDs were to rise to \$35, the individual would then be willing to pay a maximum of \$35. This would not necessarily coincide, however, with an increase in utility associated with the consumption of CD’s.

causes, meaning that each individual's share of the total cost may be lower than in the local case, where the total project cost is divided among a small number of individuals. The contribution model supported by the above qualitative data may have important implications for contingent valuation (CVM) studies in which environmental economists assume a purchase model interpretation of responses to questions similar to those employed in the above case study. It is clear that some individuals assess the magnitude of a requested financial contributions more in terms of fairness of price, than how it compares with the total value they assign to that good.

The question of what motivates individuals to contribute to the public good has long puzzled social scientists. The main thrust of this paper has been to extend a well known psychological model of helping behaviour to encompass cases involving individual contributions to public goods. The final model represents an integration of a wide range of concepts from psychology, political science and economics. Previous attempts to apply Schwartz's model of norm-activation to behaviour involving public goods have not generally addressed many of the important conditions for cooperation that have been considered in this paper. Political economists, on the other hand, have tended to focus on the identification of such conditions, without considering in a detailed way the psychological processes involved in bringing such factors together. Understanding 'micromotives', and how they relate to 'macrobehaviour' (Schelling, 1978), can thus benefit from a transdisciplinary approach, such as that attempted in this paper. The qualitative data presented above illustrates how key elements of the model manifest themselves in the case of individual decisions of whether or not to promise financial contributions in exchange for public goods. The model would appear to be worthy of further investigation.

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